

Remarks/Arguments

Claims 1 - 20 are pending. No amendments to the claims have been made. Reconsideration of this application is requested.

35 USC 103 Claim Rejections

Claims 1 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,689,559 issued to Park (Park Patent) in view of United States Patent No. 5,796,826 also issued to Park (Park '826 Patent). Claims 2 – 7 and 13 - 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Park in view of Park '826 and further in view of Mandelbaum (United States Patent No. 5,544,246). Claims 8 – 11 and 15 - 19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Park in view of Park '826 and further in view of Mandelbaum and EBU ("Functional model of a conditional access system", EBU Project Group B/CA). Claim 20 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Park in view of Park '826 and further in view of EBU. Applicant respectfully traverses these rejections for at least the following reasons.

To establish a prima facie case of obviousness, all of the recited claim limitations must be taught or suggested in the prior art. Further, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings. *See, M.P.E.P. 706.02(j)*. Further yet, the teaching or suggestion to make the claimed combination must be found in the prior art, and not

based on the applicant's own disclosure. As discussed below, the cited prior art references, both singly and in combination, fail to teach or suggest all of the limitations of Claims 1 - 20.

Claims 1 - 11

Claim 1 recites:

A method for copying a program having a scrambled program content component and an encrypted control component comprising:

- (a) receiving, in a recording apparatus, said program;
- (b) attaching a data item to said encrypted control component, said data item indicating that said program has been copied;
- (c) encrypting said encrypted control component and said data item to generate a nested control component;
- and
- (d) recording said program content component and said nested control component. (emphasis added)

Thus, Claim 1 broadly encompasses: (a) receiving a program having scrambled content and an encrypted control component; (b) attaching a data item indicating that the program has been copied to the encrypted control component; (c) encrypting the already encrypted control component and attached data item to generate a nested control component; and (d) recording the program content and nested control component. The Park and Park '826 patents, both singularly, and in combination, fail to teach or suggest at least the limitation of encrypting the encrypted control component and data item to generate a nested control component – and thus fail to render Claim 1 unpatentable.

Support for the above limitation may be found in the present specification, on page 8, line 28 – page 9, line 2, which recites:

In one embodiment of the present invention if the content is scrambled, the recorder encrypts the ECMs using the global public key. Before encryption takes place, the recorder attaches a mark (or data item) (see Figure 2b) to each ECM as an indication of copying. In general, every time a scrambled movie is copied, its ECMs are encrypted once again, a process that may be referred to as "nesting". This allows the smartcard to determine how many times the original movie has been copied. The following example (wherein GPK is the Global public key, E is the Encryption process, CW is the Control word (the key for descrambling) and ECM contains CW, CCI, source of the content and other data) detects an illegitimate copy and prevents the display thereof.

Assume an ECM of the movie has the form: $E_{GPK}(CW, \text{never-copy})$. If a recorder receives this ECM, it will transform it to: $E_{GPK}[E_{GPK}(CW, \text{never-copy}), \text{copy-mark}]$. The movie with this nested ECM will be the output of the recording process.

The Office Action acknowledges that Park fails to teach or suggest "encrypting the encrypted control component and said data item to generate a nested control component" as recited in Claim 1. Park '826 is cited to provide this feature. Applicant submits that for the reasons discussed below, Park '826 fails to cure the defect of Park as applied to claim 1.

In contrast to the claimed invention, Park '826 does not teach or even suggest encrypting an already encrypted control component together with a data item, in a nested fashion, to generate a nested control component. Instead, Park '826 (similar to the Park primary reference) merely encrypts an unencrypted control word (i.e. scrambling key) along with an updatable value (i.e. additional information) where, upon decryption of the encrypted scrambling key and the updatable value (see FIG. 8 of Park '826), that value itself is updated (i.e. decremented) and then recorded onto the video tape.

More particularly, Park '826 discloses an encrypting portion 10 (Fig. 7, column 4, line 46), in which additional information containing a reproducible number is encrypted together with a scrambling key. *See, e.g., Park '826, Col. 6, lines 62 - 64.* However, this additional information and scrambling key are in no way encrypted to generate a nested control component as is expressly recited in Claim 1. In contrast, a detailed reading of column 2, lines 53-60 of Park '826 reveals:

In playback of video tape, a decryption algorithm corresponding to the encryption algorithm is used to restore a scrambling key and information on a reproducible number remaining. Using the restored scrambling key, the original bit stream is restored through descrambling. Here, the reproducible number remaining is reduced by one and then recorded on video tape. (emphasis added).

Column 6, lines 62-65 of Park '826 further reveals:

“In encrypting portion 10, the additional information containing the reproducible number is encrypted together with the scrambling key. In Decrypting portion 20, the additional information is updated for every playback”. (emphasis added).

From the above passages, it is clear that Park '826 does not generate a nested control component as recited in the present claims. PaRK '826 merely encrypts a control word or scrambling key along with an updatable value (i.e. additional information). The scrambling key is then decrypted by decrypting portion 20 (Fig. 8), as is the updateable value, which is then modified (i.e. decremented) and recorded onto the video tape for each playback.

Figures 13A – 13F of the Park '826 reference illustrate the process for updating ciphertext $d_{(i)}$ to indicate a videotape reproduction of the content. Video tape travels in a

manner such that it cannot be updated at the very position from which it is read. As shown in col. 8, lines 30-52, Park '826 proposes reading $d_{(i)}$ from one repetition code symbol and then updating, e.g., recording or replacing, the next repetition code symbol with $d_{(i+1)}$. According to the Park '826 reference, the repetition code states of $d_{(i)}$ and $d_{(i+1)}$ correspond to a repetition code of $i+1$ times.

Thus, Park '826, like the Park reference, merely teaches replacing or recording over a previous copy marker with a current copy marker, and not “encrypting [an already] encrypted control component and said data item to generate a nested control component” as is recited by Claim 1.

Accordingly, as Park and Park '826 each fail to teach or suggest the recited “encrypting said encrypted control component and said data item to generate a nested control component” of Claim 1, clearly their combination also fails to teach or suggest such a feature. For the foregoing reasons, Applicant respectfully requests reconsideration and removal of this 35 USC 103 rejection of Claim 1.

For purposes of completeness, Applicant submits Mandelbaum and EBU fail to add anything to the Park and Park '826 Patents in this regard. Accordingly, reconsideration and removal of the rejections of Claims 2 – 11, at least by virtue of these Claims' ultimate dependency from a patentably distinct base Claim 1, is requested.

Claims 12 - 19

In similar fashion, Claim 12 recites “receiving said restricted program in a processing apparatus, said restricted program having a scrambled program content component and a nested control component.” As the cited art, both singularly, and in

combination, fail to teach or suggest a nested control component (e.g., an encrypted, encrypted control component and data item like $E_{GPK} [E_{GPK}(CW, \text{never-copy}), \text{copy-mark})]$), Applicant submits they analogously fail to teach receiving such a nested control component. Accordingly, Applicant respectfully requests reconsideration and removal of this 35 USC 103 rejection of Claim 12.

For purposes of completeness, Applicant submits Mandelbaum and EBU fail to add anything to the Park and Park '826 Patents in this regard. Accordingly, Applicant further requests reconsideration and removal of the rejections of Claims 13 – 19, at least by virtue of these Claims' ultimate dependency from a patentably distinct base Claim 12.

Claim 20

Claim 20 analogously recites a “restricted program having a scrambled audio/video component and a nested control component.” As the cited art, both singularly, and in combination, fail to teach or suggest a nested control component (e.g., an encrypted, encrypted control component and data item like $E_{GPK} [E_{GPK}(CW, \text{never-copy}), \text{copy-mark})]$), Applicant submits they analogously fail to teach a restricted program having a nested control component. For purposes of completeness, Applicant submits EBU fails to add anything to the Park and Park '826 Patents in this regard. Accordingly, Applicant respectfully requests reconsideration and removal of this 35 USC 103 rejection of Claim 20.

CONCLUSION

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding remarks, this application stands in condition for allowance. No fee is believed due in regard to the present amendment. However, if a fee is due, please charge the fee to Deposit Account 07-0832. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the Applicant's attorney at (609) 734-6815, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Respectfully submitted,



By:

Paul P. Kiel
Attorney for Applicants
Registration No. 40,677

THOMSON Licensing Inc.
PO Box 5312
Princeton, NJ 08543-5312
Date: 2/11/05

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